

## INTELLIGENCE FROM AMERICAN SCIENTIFIC STATIONS.

## GOVERNMENT ORGANIZATIONS.

## Geological survey.

*Division of chemistry.* — During February, Prof. F. W. Clarke and Dr. T. H. Chatard completed analyses of waters from Utah Hot Springs, Lake Tahoe, and from Alum Creek in the Yellowstone National Park. They have also analyzed some rocks and sediments collected in the Great Basin. — Dr. Chatard has begun investigations into a new method of silicate analyses, the results of which promise to be of importance. — Professor Clarke has analyzed halotrichite and alunogen from a large deposit at the head waters of the Gila, in New Mexico; saussurite from California; allanite from Topsham, Me.; a mineral near cimolite from Norway, Me.; a handsome chlorite from Georgetown, D.C.; and an exceedingly interesting variety of pectolite, simulating jade, from Alaska.

Professor Clarke has also completed the analyses of two more mineral-waters from Montana, collected by Dr. A. C. Peale last summer. One of them is a calcic thermal water from a spring in Emigrant Gulch, on the west side of the Yellowstone valley, opposite Bottler's ranch. This water contains .2350 of a gram of solid matter to the litre. The temperature of the water at the spring is 38°.8 C., and the flow of water is large. The other water is also from the Yellowstone valley, the spring being situated on the upper waters of Mill Creek, about ten miles due east from Riverside, one of the stations on the Park branch of the Northern Pacific railroad. Professor Clarke finds this to be a good mineral-water. It contains 3.8125 grams of solid matter to the litre, mainly sodium, magnesium, and calcium carbonates, with considerable sodium sulphate, and small proportions of chlorides. The water also contains iodine; but the quantity brought to the laboratory was too small to estimate its amount. This water is very agreeable to the taste. It resembles very much the 'Apollinaris' water from the valley of the Ahr in

Prussia; and from this resemblance the springs have been named the 'Mill Creek Apollinaris springs.' The water is cold, having a temperature of 4° 5 C.

Mr. F. A. Gooch, formerly of the Northern trans-continental survey, has been appointed assistant chemist, to begin work in the laboratory at Washington April 1. — Messrs. Barus and Hallock at the laboratory at New Haven, needing some capillary wire tubes, and being unable to find any, have succeeded in making them at the laboratory.

*Crater Lake, Oregon.* — Among the interesting places visited by Mr. J. S. Diller, in his reconnaissance of the Cascade Range last summer, was Crater Lake, about two or three miles west of Mount Scott. This is a body of water some three miles in diameter, lying in a depression some two thousand feet below the general level surrounding it. The sides are in general perpendicular, and the water is of a most beautiful tint. Toward the western end of the lake there is a small conical island, the rock of which resembles basalt, although Mr. Diller has not yet made a careful examination of it. The rocks forming the walls of the lake are andesitic. The general elevation of the country immediately about the lake is between two thousand and three thousand feet lower than the summit of Mount Scott. Capt. Dutton is convinced, from Mr. Diller's description of the lake, that it is homologous with the craters studied by him in the Hawaiian Islands. To the latter Capt. Dutton gives the name of 'caldeiros.' He says the first view of them does away with the idea that they are ordinary craters. They are huge caldrons or boiling lakes of molten rock.

*Miscellaneous.* — Capt. Dutton has received letters from Honolulu, by the steamer leaving there March 3, which state, that, for the few days preceding that date, the 'red sunsets' have been exceedingly brilliant. — During February, Mr. Vanhise, one of Mr. R. D. Irving's assistants, prepared about fifty new thin rock-sections, among which were a large number of greenstones.

## RECENT PROCEEDINGS OF SCIENTIFIC SOCIETIES.

## American society of civil engineers.

*April 2.* — The subject for discussion was the reduction of grades necessary to be made upon railway-curves to compensate for the increased resistance to the traction of the locomotive when traversing curves, in comparison with resistances encountered upon straight lines. The various forces composing such resistances have been combined in a formula deduced mathematically; but careful experiments which have been made tend to show that no formula has yet been found which is of general application. The rules adopted upon various great railway-lines were stated; but it was plain that additional information must be

obtained before positive rules of general application could be given.

## Chemical society, Washington.

*March 27.* — Papers were read as follows: F. W. Clarke, A new variety of pectolite from Alaska. — Dr. J. H. Kidder, The use of the Nessler reagent in air analyses. In several cases the air-washings which were under examination gave a distinct, clear, green coloration in place of the characteristic yellowish-brown precipitate produced by ammonia. This color was also found in a few experiments upon rain and snow waters, but never in dealing with drinking-waters. Dr. Kidder is inclined to ascribe the new

reaction to some organic amine, and hopes to continue the investigation of it. — C. A. Crampton and H. W. Wiley, Bi-rotation of commercial starch-sugars, and a method of analysis based thereon. — G. L. Spencer, A method for the determination of phosphoric acid in commercial fertilizers. This was essentially an improvement on the volumetric uranium process. — H. W. Wiley, A method of determining the end reaction in sugar-reductions.

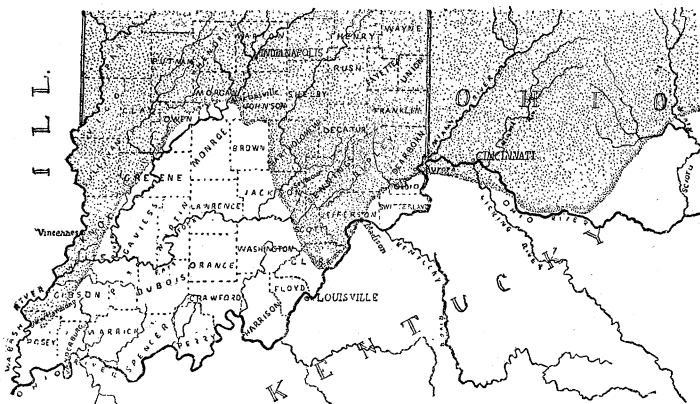
#### San Diego society of natural history.

*March 7.* — Mr. D. Cleveland made remarks relating to a tubular stone found in Temecula Cañon, supposed by him to have been used by the Indians as a pipe. Mention was also made of the Indians using the leaves of several species of *Nicotiana* (*N. Clevelandi* and *N. Bigelovii*) as a substitute for tobacco. — A medium-sized olla was described by Mr. C. R. Orcutt as having been made by the Indians of Lower California in imitation of a teapot, with a nose and perforations in the side of the unglazed pot, and which was used by them to steep the leaves of *Mentha Canadensis*, L. — Miss K. O. Sessions presented specimens of a rock from San Benito county, Cal., which is largely used in the adulteration of soap, and the best substance known for that purpose. — Mr. Jos. Winchester presented a chart representing the comparative meteorology of San Diego (on San Diego Bay) and Poway (twelve miles from the coast) during the last five years; showing that the rainfall is greatly less near the coast than among the hills, while the humidity of the atmosphere near the coast is greater for ten months in the year than away from the coast. The explanation of the chart by Mr. Winchester was followed by a general discussion. — Mr. C. R. Orcutt read a few notes on the native cacti, mentioning several undescribed species of this county and Lower California.

#### NOTES AND NEWS.

THE detailed results of Mr. G. F. Wright's studies in 1882 and 1883, of the southernmost drift margin in the Ohio valley, are recently published by the Western reserve historical society. The pamphlet includes a revised reprint of Mr. Wright's lecture on glacial phenomena in the United States, from which we copy, in reduced form, the accompanying figure of part of the drift boundary in the states examined. Several other cuts illustrate the boundary by counties in much greater detail. The description of the district opposite Cincinnati, where the effects of ice-action are traced across the Ohio into Kentucky, is still confessedly incomplete; but, so far as observed, there is

no question of the presence of true, unmodified glacial drift south of the river. It is to be noticed that another invasion of Kentucky is marked on the map here given, farther down the valley, at Madison; and that the retreat of the glaciated area towards Indianapolis seems to mark the division between two lobe-like extensions of the drift, which are now found to be frequently characteristic of the old ice-front, wherever studied in detail. The report attempts little of novelty in its subject-matter, being confined closely to questions of distribution; but the continual repetition of the familiar evidences of glaciation, — scratched rocks, heavy till, large granite boulders, kames, and kettle-holes, — limited by a line of great



MAP OF SOUTHERN INDIANA AND OHIO, SHOWING GLACIAL BOUNDARY.

irregularity, both horizontally and vertically, presents precisely the definite commonplace proof that is wanted in connection with the many scattered observations heretofore made.

— The trustees of the Peabody academy of science at Salem have decided to make a fireproof additional building, seventy by fifty feet, and two stories high. The additions to the ethnological collections, especially from Japan and Corea, have been very considerable during the past year.

— A recent calculation of the population and area of Australia states that there are only three human beings to every four square miles.

— The London society of arts has received a donation of twelve hundred pounds from one of its members, Mr. William Westgarth, to be expended on prizes for the best essays on dwellings for the poor, and the reconstruction of central London. The essays should include the following points: 1. The reconstruction of the central part of London with regard to the plan of the streets; 2. Removal of the old and poisoned soil; 3. Re-arrangement of the levels, and provision of subterranean ways for the accommodation of electric wires, pipes for water-supply, sewage, etc., and also provision for warehousing.

The prizes for these essays will be one of five hundred pounds, and one of two hundred and fifty